

CLAIMS

1. .

1 A method of making a plastic closure that comprises the steps of:

2 (a) providing a closure shell having a base wall, a peripheral skirt, means on

3 said skirt for securing the closure to a container, and an annular lip extending from said skirt

4 adjacent to said base wall and defining an inside lip surface at an acute angle to said base wall, and

5 (b) compression molding a liner in situ onto said base wall and peripherally

6 within said lip such that said liner has a liner base portion extending along said base wall and a

7 peripheral portion extending along said lip surface,

8 said step (b) being such that said liner as molded has an interior surface that has

9 a first flat axially facing surface portion on said base portion adjacent to said peripheral portion,

10 an inwardly concave surface portion where said base portion blends into said peripheral portion,

11 a second flat axially facing surface portion at an axial edge of said concave surface portion, and

12 a conical surface portion that extends from a radially outer edge of said second flat surface

13 portion to said inside surface of said lip.

2. .

1 The method set forth in claim 1 wherein said liner consists essentially of alternating

2 layers of matrix polymer, adhesive polymer and barrier polymer resistant to permeation of gases

3 through said liner.

3.

1 The method set forth in claim 2 wherein said matrix polymer consists essentially
2 of EVA, said barrier polymer consists essentially of EVOH, and said adhesive polymer is selected
3 from the group consisting of maleic-anhydride-modified EVA and maleic-anhydride-modified PP.

4.

1 The method set forth in claim 1 wherein said matrix polymer comprises an EVA
2 polymer and said barrier polymer comprises EVOH.

5.

1 The method set forth in claim 1 wherein said matrix polymer consists essentially
2 of a melt blend of EVA and SEBS, said barrier polymer consists essentially of EVOH, and said
3 adhesive polymer is selected from the group consisting of maleic-anhydride-modified EVA and
4 maleic-anhydride-modified PP.

6.

1 The method set forth in claim 1 wherein said step (b) is such that said conical
2 surface portion is at an angle of 30° to a central axis of said shell.

7.

1 The method set forth in claim 1 wherein said step (a) is such that said shell further
2 includes a circumferential array of nibs extending from said base wall adjacent to said skirt and
3 embedded in said peripheral portion of said liner following said step (b).

8.

1 The method set forth in claim 7 wherein said step (a) is such that said shell further
2 includes a circumferential array of gussets extending from said lip to an inside surface of said skirt.

9.

1 A plastic closure that comprises a shell having a base wall and a peripheral skirt
2 with means on said skirt for securing the closure to a container, and
3 a liner compression molded in situ on said base wall, said liner consisting
4 essentially of alternating layers of EVA matrix polymer, adhesive polymer, and EVOH barrier
5 polymer.

10.

1 The closure set forth in claim 9 wherein said EVA matrix polymer is selected from
2 the group consisting of EVA and EVA blends.

11.

1 The closure set forth in claim 10 wherein said EVA matrix polymer is a melt blend
2 of EVA and SEBS.